

where there are no less than seventeen paving boards, formed by as many Acts of Parliament. This subdivision of trusts and management—the heterogeneous mixture of so many persons as belong to these boards, all affecting knowledge, and many of them over officious in counsel and dictatorship, occasions perpetual conflicts of opinion and diversity in the execution of works. Hence one street, belonging to two or three estates,\* may be seen paved or macadamised in as many different ways, i.e. paved with 6-inch or 9-inch granite, with pebble and old stones, and formed in the macadamised manner. An examination of the streets of this parish shows that they are, and have been, not only improvidently, but unskillfully, formed, made, and repaired. The surface, in many of these, is full of inequalities, deep holes, and ridges, whereby a person may as well ride or drive over a newly ploughed field. It seems as if there was a conspiracy between the surveyors and coachmakers. The variety and amount of rates levied on every householder of this parish are subjects of frequent remonstrance and vexation. They vary from eightpence to eighteenpence, and even three shillings, in the pound, on the rack-rent of every house. It must be apparent that a bad system prevails in all these boards; whilst their original formation was founded on unsound principles. Each is encumbered and taxed with a clerk, collector, and surveyor, whilst some have to pay a gardener also; likewise for an office with commissioners' rooms, &c. The majority of the inhabitants of St. Pancras parish, have long and repeatedly complained of their grievances, and have made efforts to remove them. The Bill now before Parliament is intended to amalgamate the trusts, and place them under one set of commissioners, with a greatly reduced staff of officers, and the adoption of a uniform and effective system of road-making and repair, over the whole area. If this be effected, and the management be honest and good, the rates may be reduced from two-thirds to half of their present amount.

It is to be regretted that the present intended reform is sought by the parish vestry—a board which has obtained no small notoriety in the parochial annals of London for its mismanagement of the trusts reposed in it. Constituted under the authority of Sir John Hobhouse's Act, its members have mostly been persons of small property, and their ambition has been to obtain patronage and influence for personal advantages. For some years past they have succeeded in carrying the election of their partisans and clique by unwearied perseverance and intemperance and personal vituperation and abuse of the more respectable part of their board. Hence many of the wealthy and honourable inhabitants have declined to attend the meetings, if elected, or have refused to be put in nomination. To such men, and under such a government, it is hoped that no new power will be intrusted; but if an act can be obtained to place the whole district under one efficient board, much good may be effected. Having lived in and paid rates in the parish for more than forty years, and having been a vestryman, a commissioner of paving, and a surveyor, I speak from long experience, and from an intimate acquaintance with persons, localities, and the continued mismanagement of the whole district. CORRESPONDENT.

**GUIDANCE OF BALLOONS.**—It is alleged that the inventor of the fish-shaped balloon exhibited some time since at the Hippodrome, Paris, has succeeded in forming a new balloon that has made way from one end of the Hippodrome to the other against the wind. It is provided with fins or wings, and tail rudder, and is worked by clock-work apparatus beneath. The inventor is a poor workman who has suffered frightful misery during the last ten years by his enthusiastic devotion to the subject of balloon-guidance.

\* The numerous experiments, alterations, and extravagant expenses of Oxford-street, serve to show the impossibility of making some sweeping change in the management of that great thoroughfare. The householders are heavily taxed, whilst every carriage that is driven over its surface is endangered, and its occupants are constantly in risk of limb and life.

### BOLTON MARKET COMPETITION.

As the readiest mode of affording information on this subject to some who have asked for it, we give the material portion of the report of the architect to whom the designs were referred:—

"The designs are numbered from 1 to 25 inclusive: two of these arrived after the date fixed for receiving the drawings. Several of the designs are worked out with great care, and show a devotion of time and thought to the matter, which entitles the authors of them to the thanks of the committee.

The five designs that I have selected for your consideration are—

- No. 3, marked "Non quo sed quomodo."
- No. 5, "Deo non Fortuna."
- No. 7, "Quid petis hic est."
- No. 12, "Head of lion," and
- No. 15, "Non sine spe."

As you requested me to specify, in making my report, some of the distinctive features of the designs recommended, and to state how far, in my judgment, the estimates of cost may be relied on for securing the execution of the designs to which they refer, I add the following observations.

No. 3 is an excellent design, presenting a frontispiece of Corinthian columns at the principal entrance, in Knowlesy-street, and a good architectural elevation (of brick and stone) on all sides. The plan is nearly a parallelogram (It should be quite so, I think), and is divided into seven aisles by iron columns and arches. The roofs are of iron and wood. The central aisle, both longitudinally and transversely, is made higher than the others, and has a ventilating turret at the intersection. Vaults are formed below the whole area, the lighting and ventilation of which are assisted by a shaft and ornamental staircase (down) in the centre of the market floor. Butcheries are provided. [The committee will probably consider further before they decide on forming a station under the market.] The architect's estimate is..... £18,000

Less value of old material..... 2,000

Heating apparatus..... £16,000

500

£16,500

The area covered by the market-house is about 630 squares.

No. 5 is a parallelogram in plan, divided into five aisles by iron columns, carrying either wood or iron roofs: the centre division is more lofty than the others. The entrances are sufficient in number. The building is proposed to be wholly of stone externally, and the elevations, although plain, are appropriate. No feature is made of the fish-market, which consists simply of a series of disconnected shops fronting the street.

The architect states that the whole may be executed for the sum named in the instructions, with the exception of the dwellings in Knowlesy-street.

The area covered by the market-house is about 670 squares.

No. 7 has been placed amongst the five selected, as the type of a class of designs, whereof several have been submitted, founded on the building for the Great Exhibition in Hyde-park. The structure above the collage is wholly of glass, iron, and wood. The four fronts have shops accessible from a continuous covered gallery. The interior is divided into seven aisles by columns and girders carrying a "ridge and farrow" roof, wholly of glass. It will be for the committee to consider if the amount of light and heat entailed by this mode of construction be advisable for the purpose in view; also as to the cost of maintaining enclosures of the character in question.

The architect considers that the expense of the works would be within 17,000.

The area covered is about 630 squares.

No. 12 provides for bringing the end of the market-house up to Bridge-street, but the author points out that the building would be limited to the site marked out by the committee, without injury to the design. It presents effective elevations (of brick with stone dressings) on all sides, and has a clock-tower next Knowlesy-street. The area is divided into five aisles by iron columns and arches: the centre aisle is seventy feet wide. The roofs are of iron, on the principle of that over the Lime-street station at Liverpool. The whole of the basement is vaulted. A position for staircases is pointed out, but their introduction not recommended. The fish-market forms a complete building; the shops being within the walls.

The area covered by the market-house is about 790 squares. No estimate of cost is given.

No. 15 includes six sets of designs, which show an intimate acquaintance on the part of their author with the site and requirements. The plan of the

market-house is a parallelogram. The entrances are numerous and well placed. Vaults are formed beneath the whole area. Plans are given for staircases, and, should these be omitted, for an inferior description of market for casual dealers in their place.

The area covered, by the ground plan No. 18, to which the architect more particularly refers, is about 560 squares. The plan is divided into three spans by iron columns and arches. The roofs are of iron. The elevations are less satisfactory than the plans. The framed view may be regarded as the author's principal proposition in that respect. The building is proposed to be externally of stone. The fish-market is a complete building; the shops within the walls.

The cost (on plan No. 18) is estimated at 21,150*l.*, including approaches.

In answer to the inquiry as to the correctness of the various estimates of cost submitted, I beg to state that I have, with some labour, looked into the question, and am disposed to think that the improvements and accommodation desired by the corporation cannot be properly provided for the sum named in the printed instructions.

Nos. 5 and 15 approximate most nearly to the views of the committee in this respect, and I am of opinion that the estimate given by the author of the latter will be found tolerably correct.

I must add, that the premiums were offered by advertisement "for the best designs," without allusion to cost; and that, although a certain sum is mentioned in the instructions, adherence to this is not made a stipulation, but is merely suggested as desirable.

I take the liberty of expressing a hope that a building will be raised worthy of your important town, and have the honour to subscribe myself, gentlemen, your very obedient servant.

GEO. GODWIN, Architect."

The Markets Committee of the corporation have since considered the matter, and have awarded the premium of 50*l.* to No. 3, found to be by Mr. G. T. Robinson, architect, Wolverhampton, and No. 15, found to be by Mr. Leigh Hall, architect, of Bolton.

### DRAIN PIPES AND THEIR EVILS.

SIR,—Stoneware pipes should not be hastily adopted for trunk lines. If the bottom on which they are to be placed is sloppy, or a running sand, it is found impossible to lay them to a correct line: they will consequently be found to be irregular in their inclination, some being depressed by sinking into the soft soil, and others "cocking up." The pipes are frequently broken by the workmen employed in laying them, or in filling in the trench after they are in position. Sometimes a paving stone, or other hard substance, is shovelled in, inadvertently, with the earth, and fractures them. Soft clay, or gravel, when filled in from a height of 12 or 15 feet, will cause the same damage. In spite of the most vigilant supervision, these breakages will frequently escape the attention of the superintendent. It will be easily understood that it is a troublesome and costly process, subsequently, to discover and rectify these defects.

As to the use of tubular drains, I am compelled, in opposition to modern views, to maintain that tubes of the dimensions at present laid down, are inefficient. It is well known that the best pipes which can be procured are defective, and scarcely ever form a perfect joint with each other. The smallest piece of wood, or other matter, lodging in this imperfect joint, forms an obstruction, and becomes the nucleus for accumulations which are constantly increasing. When the joints are cemented, the cement is frequently forced into the pipes, and, when set, offers an impediment which produces the effect already described. The accumulations, consisting of house sewage, road stuff, and various refuse, gradually indurate, and cannot be expelled by any flow of water. This is particularly the case in the Surrey and Kent districts, and especially in Bermondsey, where the sewage from the tank-yards, consisting of hair, lime, schumack, &c., adds infinitely to the mischief. The contents of the drains being penned back several hours every day, the various substances in suspension ensue and consolidate, and form at length a compact deposit, which gradually chokes the mains, which no force of water can scour out, and which manual labour alone can remove.